

Claims

1. A combined suction and directional irrigation apparatus for use in a surgical procedure including an irrigation tubular member having a lumen connected to a source of irrigation fluid and a suction tubular member having
5 a lumen connected to a suction source, a discharge port on the side surface at the distal end of said irrigation tubular member for discharging irrigation fluid into the surgical site, said irrigation tubular member being removably supported to said suction tubular member, and means attached to said irrigation tubular member and said suction tubular member for positioning said discharge port
10 to change the direction of said discharge port for delivering irrigation fluid to a different area in the surgical site.

2. A combined suction and directional irrigation apparatus for use in a surgical procedure as claimed in claim 2 including a sleeve affixed to said suction tubular member disposed intermediate the ends thereof, said irrigation
15 tubular member being slidably and removably supported by said sleeve, said means including a gear-like member affixed to said sleeve and a projection member affixed to said irrigation tubular member adapted to slide out of and into one of a plurality of slots of said gear-like member and rotated to fit into
20 from any of said plurality of slots by raising and lowering said tubular member.

3. A combined suction and directional irrigation apparatus for use in a

5 surgical procedure including an irrigation tubular member having a lumen
connected to a source of irrigation fluid and a suction tubular member having
a lumen connected to a suction source, an discharge port on the side surface
at the distal end of said irrigation tubular member for discharging irrigation
fluid into the surgical site, means operatively connected to said irrigation
tubular member and said suction tubular member for changing the direction of
said discharge port for delivering irrigation fluid to different areas in said
surgical site, said suction tube having a finger or thumb rest member mounted
thereon intermediate the ends thereof and an aperture formed in said finger or
thumb rest communicating with the lumen of said suction tubular member,
whereby the suction inlet of said lumen in said suction tubular member is
connected or disconnected from the suction source when the finger or thumb
opens and closes said aperture.

15 4. A combined suction and directional irrigation apparatus for use in a
surgical procedure as claimed in claim 3 wherein said irrigation tubular member
includes a distal end and said suction tubular member includes a distal end and
said distal end of said suction tubular member projects beyond said distal end
of said irrigation tubular member.

20 5. A combined suction and directional irrigation apparatus for use in a
surgical procedure as claimed in claim 3 wherein said finger or thumb rest
member is shaped in a concaved configuration to conform with the shape of the
finger or thumb.

6. A surgical apparatus for providing irrigation and suction to the surgical site of a patient including a first tubular member having a lumen for directing a spray of irrigation fluid to the surgical site, a second tubular member having a lumen for directing a suction to the surgical site, a sleeve
5 attached to said second tubular member intermediate the ends thereof for removably supporting said first tubular member thereto, a ring-like member affixed to said sleeve, an axially projecting member affixed to said first tubular member at a location intermediate the ends thereof for sliding into a plurality of circumferentially spaced axial slots formed in said ring-like member for
10 selectively positioning said first tubular member in different directions, whereby the direction of the spray of irrigation fluid is variable.

7. A surgical apparatus for providing irrigation and suction to the surgical site of a patient including a first tubular member having a lumen for directing a spray of irrigation fluid to the surgical site, a second tubular
15 member having a lumen for directing a suction to the surgical site, said second tubular member having a proximal end and fitting for attaching to a suction source and a distal end having an opening for admitting fluid and particles at the surgical site for the removal thereof, an orifice operatively connected to said lumen located intermediate the distal end and proximal end for by-passing
20 surgical site so that the vacuum is diverted through said orifice and accessible to the surgeon for opening and closing said orifice with his finger or thumb and a platen attached to said suction tubular member having a outer surface contoured to define a finger or thumb rest, a sleeve attached to said suction

tubular member for accepting said irrigation tubular member for reciprocal and rotary movement and means cooperating with said irrigation tubular member and sleeve for positioning said irrigation tubular member in different circular directions and said distal end of said suction tubular member projecting beyond the distal end of said irrigation tubular member.

8. A surgical apparatus as claimed in claim 7 wherein said means includes a gear-like member attached to and surrounding the outer surface of said sleeve and having a plurality of spaced teeth defining circumferentially spaced slots, said suction tubular member being attached to said gear-like member at one of said plurality of spaced slots, and a ring-like member having a projection affixed to said irrigation tubular member and selectively adapted to fit into one of said spaced slots, said ring-like member having a shoulder that abuts against said gear-like member to define the spacing between the distal end of said suction tubular member and the distal end of said irrigation tubular member.

9. A surgical apparatus as claimed in claim 8 including a discharge port on the side surface of said irrigation tubular member adjacent to said distal end thereof whereby the irrigation fluid is aimed at different directions in the surgical site when the surgeon raises and turns said irrigation tubular member to insert said projection into any of said plurality of slots.

10. A suction and directional irrigation hand-held apparatus for

irrigating and removing fluid and particles at a surgical site, said apparatus having an irrigation tube having a distal end, a proximate end and a lumen, a suction tube having a distal end, a proximate end and a lumen, a sleeve having a gear-like member surrounding the peripheral surface of said irrigation tube and being affixed to the peripheral surface of said irrigation tube at a valley between teeth of said gear-like member, said suction tube having an inlet at the distal end for admitting fluid and particles into said lumen at the surgical site, a fitting at the proximate end adapted to be connected to a vacuum source, a platen affixed intermediate the distal end and proximate end of said suction tube and located at the proximate end portion where the apparatus is held by hand and having an aperture communicating with the lumen to connect the vacuum to ambient and being adapted to be closed by the finger or thumb of the hand so as to by-pass the surgical site when opened and to connect the vacuum to the surgical site when closed, a ring-like member surrounding the periphery of said irrigation tube having an axial projection facing the distal end of said irrigation tube and complementing the valley between teeth of said gear-like member, said irrigation tube being slidably and rotatably mounted in said sleeve, said gear-like member having a shoulder at the upper end thereof, and said ring-like member having a shoulder at the lower end thereof for engagement so as to position the distal end of said irrigation tube to be upwardly spaced from the said inlet, said irrigation tube adapted to be slidably removed from a valley between teeth of said gear-like member and rotated to be inserted into another valley of said gear-like member to change the direction of the discharge port formed at the peripheral surface at the distal end of said

irrigation tube and said irrigation tube having a fitting at the peripheral end thereof adapted to be connected a source of irrigation fluid whereby the surgeon holding the hand-held apparatus can selectively apply suction to the surgical suction and can mechanically change the direction of the flow of irrigation fluid at the surgical site.

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